

REMARKS/ARGUMENTS

Specification

The amendment for paragraph [0029] follows exactly that of the previous, Feb. 28, 2006 amendment. Due to a clerical oversight, the changes to [0029] were left off. No new matter is introduced.

Claim Rejections - 35 USC § 103

Claims 1, 2, 7, 8 & 11-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Wildhagen et al (US 2003/0059065), herein Wildhagen.

Claim 1 (currently amended) recites “a gain determined directly by a bit signal at an output of the analog-to-digital” which is not taught nor suggested by the AAPA or Wildhagen. (Support for the amendment is found on p. 7 line 10 of the disclosure and Fig. 2.) As shown in Fig. 1 of Wildhagen, the ADC does not drive the VCA gain control directly. There are six blocks of additional circuitry between the ADC output and the VCA gain control; so there is not “direct determination” physically.

Further, as the Examiner pointed out on page 2, paragraph 27 of Wildhagen which is summarized on page 1, paragraph [0007] lines 7, 8, 12, and 13, Wildhagen states the gain is controlled by “comparing the magnitude of the VCA output signal with a predefined reference magnitude”. Thus, Wildhagen states he uses an “error signal” (VCAout – Reference) to determine the VCA gain. So it is not the ADC output directly determining the VCA gain, but rather some difference voltage (error signal). So there is not “direct determination”, in spirit, either, let alone physically.

Claim 1, as amended, is believed allowable over the reference arts.

Claims 3 – 6, being dependent on Claim 1 should be allowable for the at least foregoing reasons. Claims 3 and 6 further recite a “MSB” being used to determine the gain adjustment. Wildhagen uses a calculation of an error signal instead.

Applicants respectfully submit that the Examiner had used in the previous Office Action and in the Advisory Action, the Applicants’ own teachings and claimed invention as an instruction manual or “template” to piece together the teachings of the disclosure with Wildhagen to try to render obvious Claim 1, 7, 13 and their dependent claims. This is believed impermissible.

Claim 7, currently amended, recites “adjusting the gain by a control directly connected and responsive to bit values of the” ADC. This is not taught nor suggested by the AAPA or Wildhagen as he has six additional intervening circuit blocks and he uses an error signal; therefore, Claim 7 is believed allowable. Claims 9 and 10, dependent on Claim 7 should also be allowable. Also, Wildhagen does not anticipate the “MSB” and the “second predetermined value” recited in Claims 9 and 10, respectively.

Claims 2, 8, 11 – 12 are cancelled and the reasons for rejection no longer apply.

Claim 13, as amended, recites “a gain determined directly by a single sample of digital representation at an output of an analog-to-digital (ADC)”. As noted above, neither AAPA nor Wildhagen nor AAPA teaches or suggests “direct” gain determination. Wildhagen has six additional intervening circuit blocks and he uses an error signal. Further, Wildhagen does not anticipate using a “single sample” because he has multiple processing steps to determine the gain; [0014] states “repeatedly adding the scaled error signal” and the gain control signal ... “will be decreased/increased in the next iteration”. Also Wildhagen has a digital

low pass filter 16 [para. 0027]; a digital low pass filter does not provide a meaningful output based on just one sample.

Therefore, Claim 13 is believed allowable over the references. Claims 14 – 21, dependent on Claim 13, should also be allowable. Further, Claim 20 recites “at least an MSB bit of said digital representation at said output of the analog-to-digital circuitry is directly connected” which is not taught by Wildhagen.

Claims 19 and 21 are amended to recite the “sensitivity and interference tests” as advised by the Examiner.

Claims 3-6, 9 & 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Wildhagen as applied to claims 1, 2, 7 & 8 above, and further in view of Zamat (US 6,314,278).

These rejections no longer apply in light of the current amendments. Further Zamat does not teach “direct” gain adjustment either; see Fig. 2 of Zamat.

New Claims

New Claims 22 – 24 recite a “gain is operable to be reduced and increased by different thresholds, respectively, whereby hysteresis is prevented” is supported by paragraph [0027] of the disclosure; no new matter is introduced. Claims 22 – 24 are not taught by Wildhagen and depend on independent claims which are believed allowable; so, these new claims are believed allowable.

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A continued examination (RCE) is filed. Respectful request is made for considering the amendments, and issuing a Notice of Allowance.

Respectfully submitted,

/Dolly Y. Wu/
Dolly Y. Wu
Reg. No. 59,192
Texas Instruments Incorporated
PO Box 655474, M/S 3999
Dallas, Texas 75265
972.917.4144